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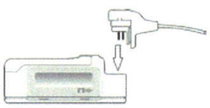
QUICK REFERENCE GUIDE: Vision *Express* Holter System

This document is a guideline only to be used as an aid to comprehensive inservice training. These guidelines are not meant to replace applicable user manuals. Refer to the applicable user manual for further details.

LOGIN TO THE Vision™ *Express* SYSTEM

- Select the Vision *Express* desktop icon to launch the application.
- Enter your provided login credentials as per facility policy

PREPARING THE RECORDER: CONNECTING TO SYSTEM AND RECORDER STATUS



- Remove H3+™ recorder battery **before** you connect the H3+ to the USB cable.
- Connect the H3+ Recorder to the white USB download cable.
- Confirm that the H3+ Recorder screen displays "USB".

- Select the ***Prepare Recorder/Card*** icon on the Vision *Express* main menu.
- The recorder status appears in the Recording List, found on the upper portion of the current page.

Recorder Status:

- **Erased** = No data exists on the recorder/card (No patient demographics/Exam data).
- **Prepared** = Patient demographics have been written to recorder/card, but there not any exam data present.
- **Completed** = Recording is complete but not imported. Import recording to view/save.
- **Imported** = Recording has been imported. Recorder may be erased.

***__Note:__** The Recorder Status <u>must be</u> "Erased" prior to preparing for a new patient.

PREPARING THE RECORDER: ADDING A NEW PATIENT

If no order is present:

- From within the ***Prepare Recorder/Card*** window:
  - Select the **Erase Recorder/Card** button to erase previously obtained data.
  - The **Search Patient** tab is automatically selected.
  - Search for existing patients in the database by entering patient name or ID number and clicking **Search** button. When correct patient is found, click on it and information is populated.
  - If a patient is not found, enter patient and exam information on left panel (minimum recommendation is Last Name, First Name, ID. If patient has a pacemaker, check that box).
  - Set the Recorder Duration up to 48 hours.
  - Click on **Prepare Recorder/Card** button located in the lower left portion of the tab.
  - The recorder status now displays as "**Prepared**" and is ready to be placed on the patient.
  - Select **Exit**.

If an order is present:

- From within the ***Prepare Recorder/Card*** window:
  - Select the **Erase Recorder/Card** button to erase previously obtained data.
  - Select the **Exams** tab
  - Select the patient from the displayed exams list and the Patient Information fields will be populated with
  - Select the patient from the displayed exams list and the Patient Information fields will be populated with the available information.
  - Set the Recorder Duration up to 48 hours.
  - Click on **Prepare Recorder/Card** button located in the lower left portion of the tab.
  - The recorder status now displays as "**Prepared**" and is ready to be placed on the patient.
  - Select **Exit**.

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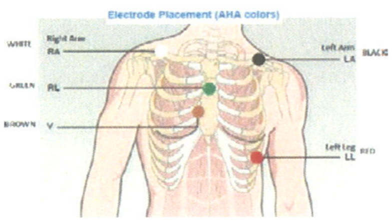
CONNECT THE HOLTER RECORDER TO PATIENT

Electrode Site Preparation

- Inform patient of procedure
- Prepare electrode site: CLEAN skin
    - ✓ **C** = Clear hair away
    - ✓ **L** = Leave no lotions, powders or body oil
    - ✓ **E** = Effectively dry the skin
    - ✓ **A** = Abrade the skin
    - ✓ **N** = Never forget to perform skin prep!
- Attach patient cable lead wires to the electrodes before applying them to the patient

Standard Holter ECG Lead Placement: H3+ 5-Wire Patient Cable



- Place the RA electrode on or just below the right clavicle.
- Place the LA electrode on or just below the left clavicle.
- Place the RL electrode in a stable location such as the upper third of the sternum.
- Place the LL electrode on the lower left edge of the rib cage.
- Place the V1 electrode on the patient's 4th intercostal space at the right sternal border.

Patient Hookup

- Connect patient cable to the H3+ recorder.
- Insert <u>new</u> AAA battery into recorder (software version will appear on LCD display).
- Press black **Event** button (on bottom of recorder) to cycle through recorder menu:
    - First press will display current Time
    - Second press will display Patient ID
    - Next press will display Lead I
    - Next press will display Lead II
    - Next press will display Lead V
    - Next press will bring you back to Time and you can cycle through I-II-V-Time with each subsequent press
- If amplitude and signal quality appear good, begin recording by pressing and holding the black **Event** button for 5 seconds. The letter "R" will display continuously next to the current time on the LCD.
- Secure the H3+ to the patient in its carrying case.

Note: The H3+ recorder is not waterproof and should not get wet.

Additional Hookup and Prep Tips:

- ECG monitoring electrodes must adhere properly to minimize artifact and noise interference.
- Maximize the skin-to-electrode contact to optimize the quality of the Holter ECG data.
- Secure Holter ECG lead wires and Holter recorder to minimize movement artifact.
- Avoid placing electrodes over muscle and loose/flabby skin locations.
- Keep the left leg electrode away from belts and clothing that may cause interference.
- Prevent pulling of the lead wires and position the device away from the left leg electrode.
- H3+ will automatically begin recording 30 minutes after patient hookup even if black **Event** button is not held for 5 seconds.
- If the battery is removed, the recording will end but the data will not be lost
- When the recording is complete, the recorder will display the ID in reverse color (white text)

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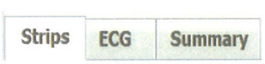
IMPORT RECORDING

- Remove H3+ recorder from carry case, remove and discard AAA battery.
- Disconnect the H3+ patient cable and attach USB download cable connected to computer. Confirm "USB" displays on recorder screen.
- Select the ***Import Recording*** icon to import the Holter data from the recorder.
- In the top section of the Import Recording window, the Recorder Status will display "**Completed**".
  - The **Recording Match** tab is automatically displayed with the Patient Information when the recorder was prepared with patient demographics prior the recording session.
  - The **All Scheduled** tab will display Holter orders that are scheduled.
  - The **Search Patient** tab allows you to search for a patient in the database or you can manually add patient demographics.
- Select the patient you are attaching the recording to and click the **Acquire Recorder/Card** button.
- The **Recording Information** screen will appear
  - **Start** will begin the Holter data acquisition
  - **Scan Criteria** opens a window allowing you to adjust settings as needed. If the patient has a pacemaker, you can enable pacemaker detection here. Automatic Atrial Fibrillation can also be enabled.
  - **Cancel** closes the **Recording Information** window and cancels acquisition.
- Click **Start**. *Acquiring Recording* initially displays, followed by *Preparing Recording* followed by *Acquisition has completed.*
- You can add, edit or delete Diary Events or click Exit.
- **Erase Recorder/Card** and disconnect H3+ recorder.

HOLTER ANALYSIS

Upon completion of Holter data import, the software will automatically take you to the Review mode for that patient. If you are not already in the patient you want to review, open the **Exam Search** icon.

- Click the Exam Search button and a list of all patient Holter exams will be generated. Highlight the correct exam and double-click to open or click **Edit**.
- For Rapid Review with the **Strips** tab selected, click the **Add Auto** button to open the *Auto Strips Settings* window. This will allow you to customize the desired strips for the final report. Click *OK* to close window and the list of ECG strips will appear.



- The **Strips Tab** allows you to edit, delete, change order, mark as artifact and add strips.
  - A single-click on any strip will display the strip to the right
  - A double-click will display the ECG view at that time of the strip
- The **ECG Tab** displays the ECG waveforms and events. Each beat is color coded to help speed up the review.
  - Beats can be relabeled or deleted using the **Beat Tool**.
  - Roll the mouse wheel to zoom in/zoom out of the ECG data OR Select the **Duration/Page** drop-down list to choose the amount of displayed ECG data (choices include 5 seconds to 30 minutes depending on number of displayed leads).
  - Select the **Page Down/Page Up** keyboard keys to rapidly page through the ECG data.
  - Select **Leads** to adjust displayed ECG waveforms.
- The **Summary Tab** displays summary values and conclusions. Summary values can be manually overridden, if desired.

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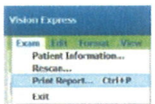
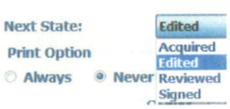
FINAL REPORT PREVIEW



- Select **Print Report** from the **Exam** pull-down menu bar located on the upper left area OR use the shortcut keys CTRL+P to open the final report.
- The Print Preview Icon Tool Bar contains the following:
  - A printer icon to open a Windows printer dialog to choose printer properties, print range, and number of hard copies.
  - A magnifying glass to zoom in/out when displaying the report preview.
  - Page Icons: Select the single-page, two-page, or four-page preview.
  - The number of pages is displayed as xx/xx.
  - Use the red arrow keys to navigate to next/previous page, or move to first/last page of the report.
  - Use the Settings icon to change the strip gain settings, to configure the full disclosure ECG waveforms, and to configure the amount of full disclosure to be included in the final report.
- Click on the Report drop down to choose any of the user defined reports.
- Use the checkboxes to the left of the display to choose sections to include/exclude in the final report.
- Select the refresh arrows located on the lower left of the print preview screen to refresh any changes made.
- Select the small red "X" located in the red upper corner of the print preview to close the print preview and return to the recording review display.

CLOSING THE PATIENT RECORDING

- Select **Exit** from the **Exam** pull-down menu to close the recording results display.
- The **Finalize Exam Update** menu is then displayed.
- The exam states can be changed using the drop-down menu:



  - **Acquired**: This state indicates the Holter recording is imported and waiting for the Holter analyst to confirm or modify results.
  - **Edited**: This state indicates the analyst has examined the results and prepared the recording for review.
  - **Reviewed**: This state indicates an authorized user has confirmed the results. When selected, a "Reviewed By" field opens for reviewer's name entry.
  - **Signed**: This state indicates the results are correct and no further processing is necessary. When the system is configured for legal signature, both a user name and password must be entered by the user who has electronic signing privileges.
- Select the type of report needed from the **Report Settings** drop down.
- Select the **Update** button to save your editing changes and exit.
- If recorder data has not been erased from H3+, click on **Erase Recorder/Card**.
- Click Exit.

EXIT THE HSCRIBE APPLICATION

- Select the **Exit** icon to exit the Vision Express application (based on facility standard of care and user preferences).

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